

Appl. No. 10/038,771
Amdt. Dated March 6, 2006
Reply to Office Action dated December 6, 2005

REMARKS

Applicants acknowledge the Examiner's careful consideration of this application, grant of the request for continued examination, withdrawal of the finality of the previous Office Action, and entry of the prior Amendment of November 1, 2005.

Applicants' representatives acknowledge the courtesy extended during the telephonic interview conducted on February 28, 2006. From the discussion of the Barron reference, Applicants believe that none of the art of record nor any combination thereof teach or suggest passing the mixture of the reinforcing material and the binder material through a heating zone produced by a heat source external to either of the binder or the reinforcing material.

Support for the present claim amendments can be found in the original specification at, at least, for example, paragraphs 44, 49 and 50, and Figures 3 and 5. The presently amended claims do not raise the issue of new matter.

Claims 1, 4, 7-10, 12-14, 20, 22, 23 and 25-29 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Barron (U.S. Patent No. 6,030,575) and further in view of Kelman (U.S. Patent No. 5,413,750), Burelle (U.S. Patent No. 3,660,184), and Smith (U.S. Patent No. 4,673,594).

Barron does not teach or suggest "passing the mixture through a heating zone produced by a heat source external to the mixture" (Claim 1) or "[contacted streams] passed through a heating zone" (Claim 28). Barron discloses only heating the binder material only which is then dispersed onto the reinforcing fibers. See col. 3, lines 1-21, particularly lines 9-

14; also col. 6, lines 28-39. Barron teaches that it is desirable to heat or melt the binder material prior to the binder material contacting the fibers. See col. 8, lines 18-26. The only source of heat to the mixture is the heated binder material. The binder is allowed or enabled to cool (col. 3, lines 6-8; col. 7, lines 13-14, 55-59).

Furthermore, note that the binder has “reached effective resolidification,” that is, cooled, “once the binder particles and fibers have been in contact under the controlled heat conditions as described above,” col. 8, lines 50-53. The controlled heat conditions must not include heating the mixture since the binder would not reach effective resolidification once in contact with the fibers if heat was being applied to the mixture, or if the mixture was passing through a heating zone.

Barron discloses that “a particular advantage of the present invention” is to maximize the compaction of the perform by controlling the viscosity of binder material. Col. 6, line 66 to col. 7, line 2. The improvement of Barron can be obtained when the binder material is heated and then “cooled, or allowed to cool, such that, beginning with initial contact of the binder with the fibers, the binder’s viscosity is reduced to a predetermined minimum level and then returned to its maximum (solid) level within a correlated time period.” Col. 7, lines 12-18.

The Examiner is directed to his prior comments in the Advisory Action dated October 25, 2005, which states “it is agreed that that prior art references of record fail to suggest a heating step in which the reinforcing material and binder are initially mixed and subsequently heated from a heat source external to the mixture.” See Page 2. Furthermore, none of the

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newly cited art (Burelle, Smith or Johnson) teach or suggest a heating step in which the reinforcing material and binder are initially mixed and subsequently heated from a heat source external to the mixture, either alone or in combination with any of the other cited references.

With respect to claims 1, 9 and 10, the Examiner cites various sections of the Barron reference but none of those citations suggest passing the mixture through a heating zone. Barron describes heating the binder to a certain temperature so that its viscosity is at a selected value upon and during contact with the reinforcing fibers. Col. 3, lines 9-13 and col. 7, lines 5-10. The temperature of the binder is then returned to, or allowed to return to a solid state temperature. Col. 7, lines 55-59. The reinforcing material is described as acting "as a heat sink." Col. 8, lines 50-54.

Withdrawal of these rejections is in order and requested.

Claims 2, 3, 5, 16-19, 40, 41, 44, 46 and 47 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Barron, Kelman, Burelle and Smith as applied above, and further in view of either of Hedman (GB 2,015,915) or Johnson (U.S. Patent No. 4,762,740).

Barron does not teach or suggest "passing the mixture through a heating zone produced by a heat source external to the mixture" (Claim 5), or "applying heat to the stream of combined reinforcing material and binder to form a heated stream... wherein the heat is from a heat source external to the reinforcing material and binder" (Claim 16), or "combining the stream of fibrous reinforcing material and the stream of heated binder material to form an

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adhesive mixture, and wherein the reinforcing material and the binder material are introduced into a heat zone in forming the adhesive mixture... wherein the heat zone is provided by a heat source external to the fibrous reinforcing material and heated binder” (Claim 40), or “heating the combined streams with a heat source external to the binder material or the reinforcing material” (Claim 47).

As set forth above, Barron discloses only heating the binder material only which is then contacted with the reinforcing fibers, and allowed to cool. Additionally, according to Barron, that it is desirable to heat or melt the binder material **prior** to the binder material contacting the fibers.

The additional references do not overcome the above-stated deficiencies of the Barron reference.

Withdrawal of these rejections is in order and requested.


The amendments to the claims do not present new issues requiring further consideration or search, and place the claims in condition for allowance. Applicants respectfully request entry of the amendments, reconsideration and withdrawal of all rejections and objections, and issuance of a notice of allowance.

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Applicants have endeavored to address all matters raised in the Office Action but if a matter has been overlooked, kindly telephone the undersigned so that all matters can be resolved.

Respectfully submitted,

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